

Open Philosophies for Associative Autopoietic Digital Ecosystems (OPAALS)



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Research Area	GSD
Project Title	Open Philosophies for Associative Autopoietic Digital Ecosystems (OPAALS)

Background to OPAALS

- ❑ Funding: EU FP6 NoE (€9.1M)
- ❑ Duration: June 2006 to June 2010
- ❑ Involved Organizations: A collaboration between 20 institutions from Europe, Brazil and India

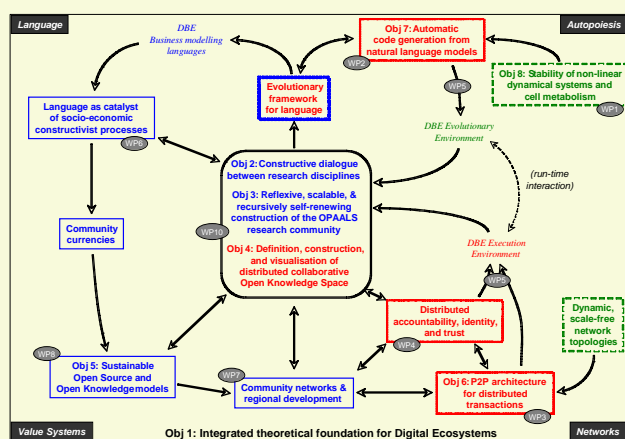


Fig 1: Self-reinforcing, recursive flow of interdisciplinary research activities to build a stable and scalable NoE in the area of Digital Ecosystem

Objectives of OPAALS

- ❑ To develop an integrated theoretical foundation for digital ecosystems research working within three domains – natural science, computer science and social science
- ❑ To create a community of research to support the extension of traditional disciplines into new disciplines
- ❑ To initiate a recursive process of knowledge creation within the research network that engenders a self-sustaining process of innovation allowing the emergence of an Open Knowledge community inclusive of stakeholders of regional economies, academic institutions and SMEs
- ❑ To capture the outputs of this recursive process in the form of an Open Knowledge Space
- ❑ To understand under what conditions ICTs can facilitate the formation of communities of practice among SMEs
- ❑ To investigate the most effective P2P architecture that can support adaptive and learning behaviour of the digital ecosystem
- ❑ To integrate the abstract Pi-Calculi with biological and cell metabolic modelling on the one hand with business modelling languages on the other
- ❑ To arrive at a mathematical definition of generalised stability applicable to coupled low-dimensional non-linear dynamical systems that will enable coupled automata to build recursively complex and interdependent data structures

University of Limerick's Role in OPAALS

- ❑ To provide expertise on open source (which is one pillar of the digital ecosystem)
- ❑ Examine new models of collaboration that are developed between the various stakeholders in the overall OS community
- ❑ To explore the shift in open source from the original movement towards a commercially viable OSS 2.0 – Understand the implications of OSS 2.0 for software development
- ❑ Transfer lessons from OSS to conventional software development, particularly in a global development context
- ❑ Research of innovative business models derived from open source that can help to generate sustainable regional development for SME's.
- ❑ A study and operationalization of ideas of openness that translate to areas beyond software, and particularly to the creation of an open knowledge space where ideas are shared, developed and implemented.
- ❑ Review the progress of open knowledge initiatives

Theoretical Underpinning

- ❑ Social Constructivist theories of power and control (Foucault, 1995)
- ❑ Realist theories of assemblage, networks and symmetry of actors (Actor Network Theory – Latour and Callon, 1986)
- ❑ Economic rationale of Information Systems ideas of Resource-Based View of the Firm (Mahoney and Pandian, 1992; Teece, Pisano and Schuen, 1997)

Research Method

- ❑ Case study based research
- ❑ Semi-structured interviews
- ❑ Online (virtual) ethnography
- ❑ Participant observation
- ❑ Literature based archival studies
- ❑ Triangulated with survey data

Current Research and Future Direction

- ❑ Mapping the various open innovation business models in practice to understand the different nuances (if any) in their process, product and community
- ❑ An understanding of value capture and value creation from the perspective of open innovation business models
- ❑ A particular focus on certain open innovation business models like inner source, talent sourcing and open outsourcing that can help generate reflexive understanding of OPAALS as a research community as well as commercial application
- ❑ A study of open-sourcing practices and process in established large companies that have embraced open source ideas and/or development
- ❑ Balanced with empirical data and analysis of small and medium firms, especially start-ups that emerged through an application of open innovation ideas